

**The Appendix is an integral part of  
Certificate of Accreditation No. 495/2021 of 20/09/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Ing. Josef Němec**

Chemical and Microbiological Laboratory

U Ovčína 49, Nový Dvůr, 397 01 Písek

**Tests:**

Ordinal number <sup>1</sup>	Test procedure/ method name	Test procedure/ method identification <sup>2</sup>	Tested object
1	Enumeration of total microorganisms by culture method	ČSN EN ISO 4833-1 ČSN EN ISO 4833-2	Food, feedstuffs
2	Enumeration of coliforms by culture method	ČSN ISO 4832	Food, feedstuffs
3	Enumeration of yeasts and moulds by culture method	ČSN ISO 21527-1 ČSN ISO 21527-2	Food, feedstuffs
4	Detection and enumeration of potentially toxinogenic moulds by culture ( <i>Aspergillus flavus</i> , <i>Aspergillus parasiticus</i> )	AHEM 1/2003, SZÚ Guideline	Food, feedstuffs
5	Enumeration of coagulase-positive staphylococci ( <i>St. aureus</i> and other species) Technique using Baird-Parker agar medium	ČSN EN ISO 6888-1	Food, feedstuffs, raw milk
6	Detection of <i>Salmonella</i> spp. by culture method	SOP M01 (ČS EN ISO 6579-1)	Food, feedstuffs
7	Enumeration of <i>Enterobacteriaceae</i> by culture method	ČSN EN ISO 21528-2	Food, feedstuffs
8	Enumeration of <i>Clostridium perfringens</i> by culture method	ČSN EN ISO 7937	Food, feedstuffs
9	Enumeration of lactic acid bacteria by culture method	ČSN ISO 15214	Meat, meat products
10	Enumeration of beta-glucuronidase-positive <i>Escherichia coli</i> by culture method	ČSN ISO 16649-2	Food, feedstuffs
11	Detection of residues of beta-lactam antibiotics by plate diffusion method using <i>Bacillus stearothermophilus</i> var. <i>calidolactis</i> C 953	SVS ČR National Reference Laboratory Guideline of 20.01.1999	Meat, milk, eggs

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12	Detection of residues of antibiotics and sulfonamides by four-plate method	SVS ČR National Reference Laboratory Guideline of 01.06.2008	Meat, milk, eggs
13	Detection and enumeration of <i>Listeria monocytogenes</i> (incl. <i>Listeria spp.</i> ) – detection method (culture)	ČSN EN ISO 11290-1	Food, feedstuffs
14	Enumeration of <i>Bacillus cereus</i> by culture	ČSN EN ISO 7932	Food, feedstuffs
15 -19	Reserved		
20	Detection of <i>Salmonella</i> by culture method	ČSN ISO 19250	Drinking, surface water
21	Enumeration of coagulase-positive staphylococci ( <i>Staphylococcus aureus</i> and other species) Technique using Baird-Parker agar medium	Regulation 238/2011 Coll. as amended by Regulation 97/2014; ČSN EN ISO 6888-1	Bathing water
22	Enumeration of culturable microorganisms at 22 °C	ČSN EN ISO 6222	Drinking, bathing water
23	Enumeration of culturable microorganisms at 36 °C	ČSN EN ISO 6222	Drinking, bathing water
24	Detection and enumeration of <i>Escherichia coli</i> and coliform bacteria. Membrane filtration method	ČSN EN ISO 9308-1	Drinking, bathing water
25	Detection and enumeration of thermotolerant coliform bacteria and <i>Escherichia coli</i> Membrane filtration method	ČSN 75 7835	Surface water
26	Enumeration of <i>Clostridium perfringens</i> Membrane filtration method	ČSN EN ISO 14189	Drinking, surface water

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27	Detection and enumeration of intestinal enterococci. Membrane filtration method	ČSN EN ISO 7899-2	Drinking, bathing water
28	Detection and enumeration of the spores of sulfite-reducing anaerobes (clostridia) Membrane filtration method	ČSN EN 26461-2	Drinking, surface water
29	Detection and enumeration of <i>Pseudomonas aeruginosa</i> Membrane filtration method	ČSN EN ISO 16266	Drinking, bathing water
30	Reserved		
31	Determination of <i>Legionella</i> spp. by culture method	ČSN EN ISO 11731	Drinking, surface, bathing water
32 -39	Reserved		
40	Enumeration of colony-forming units of yeasts and/or moulds by culture method	ČSN ISO 6611	Milk, milk products
41	Enumeration and detection of living aerobic mesophilic bacteria by culture method	ČSN EN ISO 21149	Cosmetics
42	Detection of specified microorganisms by culture method ( <i>Pseudomonas aeruginosa</i> , <i>Staphylococcus aureus</i> , <i>Candida albicans</i> , <i>E. coli</i> , yeasts and moulds)	ČSN EN ISO 22717, ČSN EN ISO 22718, ČSN EN ISO 18416, ČSN EN ISO 21150, ČSN EN ISO 16212	Cosmetics
43	Detection of <i>Salmonella</i> spp. by culture method	AHEM 1/2008	Sludge, waste water, soil, bottom sediments, biomass <sup>4</sup>
44	Determination of microbial contamination by culture	ČSN EN ISO 18593	Swabs, prints, deposits from production facilities environment

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45	Enumeration of total microorganisms and moulds in air by aeroscope	SOP SZÚ – ISSN 0862-5956, November 2001	Indoor air
46	Detection and enumeration of thermotolerant coliform bacteria and <i>Escherichia coli</i> by culture method	ČSN 75 7835, AHEM 1/2008	Sludge, waste water, soil, bottom sediments, biomass <sup>4</sup>
47	Detection and enumeration of intestinal enterococci. Membrane filtration method	AHEM 1/2008; chap.2	Sludge, waste water, soil, bottom sediments, biomass <sup>4</sup>
48-59	Reserved		
60	Determination of nitrogenous substances (raw protein) and nitrogen food by titration	SOP 6 (ČSN 46 7092-4, Javorský P., Krečmar F.: Chemical analyses in agricultural laboratories, Prague 1987, 37-43)	Feedstuffs, food
61	Determination of total phosphorus by spectrophotometry	SOP 11 (ČSN 46 7092-11, Javorský P., Krečmar F.: Chemical analyses in agricultural laboratories, Prague 1987, 87-89)	Feedstuffs, food
62	Determination of dry matter by gravimetry, water content and humidity by calculation from measured values	SOP 15 (ČSN 46 7092-3)	Feedstuffs
63	Determination of chloride by titration	SOP 8A (ČSN ISO 1841-2)	Foodstuffs
64	Determination of total fat content by gravimetry	SOP 29 (ČSN ISO 1443)	Meat, meat products
65	Determination of nitrate by spectrophotometry and nitrate nitrogen by calculation from measured values	SOP 31 (R. R. Elton-Bott: Analytica Chimica Acta 108 (1979) 285-291, AOAC Official method 935.48 Nitrates and Nitrites in meat)	Meat, meat products

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66	Determination of nitrite by spectrophotometry and nitrite nitrogen by calculation from measured values	SOP 33 (ČSN EN 26777)	Meat, meat products
67	Determination of dry matter by gravimetry, water content and moisture content by calculation from measured values	SOP 28 (ČSN 57 6021)	Meat, meat products and sterilized canned products
68	Determination of collagen by spectrophotometry and total protein by titration, determination of pure myosin by calculation from measured values	SOP 36 (ČSN ISO 937, AOAC Official Method 990.26 Hydroxyproline in meat and meat products, 1993)	Meat, meat products
69	Determination of boiling through by coagulation test	SOP 16 (Veterinary Laboratory Methods, SVS ČR, Bratislava, 1990)	Meat, meat products
70	Determination of starch by polarimetry	SOP 38 (ČSN 56 0512 – 16 ČSN 46 7092-21)	Meat, meat products ready made meals, cereals, feed
71	Determination of sugar by titration	SOP 39 (ČSN 56 0246 – 18 ČSN 56 0130 – 5 ČSN 56 0116 - 7 ČSN 56 0512 – 15 ČSN 46 7092-22)	Meat, meat products ready made meals, cereals, feed
72	Determination of fibre by commercial set	SOP 37 (Bioquant commercial set, Merck)	Meat, meat products ready made meals, cereals, feed
73	Determination of energy value by calculation from measured values	SOP 40 (Regulation (EU) No. 1169/2011 of the European Parliament and of the Council)	Meat, meat products ready made meals, cereals, feed
74-79	Reserved		
80	Determination of pH by potentiometry	SOP 4 (ČSN ISO 10523)	Drinking, surface, bathing, waste water

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81	Determination of chloride by titration	SOP 9 (ČSN ISO 9297)	Drinking, surface, bathing, waste water
82	Determination of total phosphorus and phosphate by spectrophotometry	SOP 10 (ČSN EN ISO 6878)	Drinking, surface, waste water
83	Determination of sulphate by gravimetry	SOP 12 (ČSN ISO 9280:1995)	Drinking, surface, waste water
84	Determination of dissolved solids by gravimetry	SOP 13 (ČSN 75 7346)	Drinking, surface, waste water
85	Determination of suspended solids by gravimetry	SOP 14 (ČSN EN 872)	Drinking, surface, waste water
86	Determination of anionic surfactants by measurement of the methylene blue index by spectrophotometry	SOP 3 (ČSN EN 903)	Drinking, surface, waste water
87	Determination of nitrate by UV spectrophotometry	SOP 26 (Mertens-Massart: Bull.Soc.Chim.Belgens 80, 151-8 y.1971)	Drinking, bathing water
88	Determination of iron – spectrophotometric method using 1,10-phenanthroline	SOP 1 (ČSN ISO 6332 part a total iron)	Drinking, waste water
89	Determination of ammonium by spectrophotometry and ammonia nitrogen by calculation from measured values	SOP 27 (ČSN ISO 7150-1)	Drinking, waste, bathing water
90*	Determination of free and total chlorine by HACH set and bound chlorine by calculation from measured values	SOP 20 (HACH firm publication) ČSN EN ISO 7393-2)	Drinking, bathing water
91*	Determination of temperature	SOP 22 (ČSN 75 7342)	Drinking, bathing, waste water
92	Determination of nitrite by spectrophotometry and nitrite nitrogen by calculation from measured values	SOP 32 (ČSN EN 26777)	Drinking, waste water

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93	Preliminary sensory determination of odour and flavour	SOP 23 (ČSN EN 1622, ČSN 75 7340 chap. 9 and 10)	Drinking water
94	Reserved		
95	Titrimetric determination of chemical oxygen demand using permanganate (COD <sub>Mn</sub> )	SOP 2 (ČSN EN ISO 8467)	Drinking water
96*	Determination of redox potential (ORP) by potentiometry	SOP 21 (ČSN 75 7367)	Drinking, bathing water
97	Determination of nitrogenous substances and nitrogen by titration according to Kjeldahl	SOP 7 (Javorský P., Krečmar F.: Chemical analyses in agricultural laboratories, Prague 1987, 37-43)	Waste water
98	Determination of biochemical oxygen demand (BOD <sub>5</sub> ) by Hach probe	SOP 25 (ČSN EN ISO 5815-1, ČSN EN ISO 5814)	Waste water
99	Determination of nitrate by spectrophotometry and nitrate nitrogen, total nitrogen and inorganic nitrogen by calculation from measured values	SOP 30 (R.Elton-Bott: Analytica Chimica Acta 108 (1979) 285-291 Pitter P.: Hydro-chemistry 2009, 4th edition, 199 - 200)	Waste water
100	Determination of electrical conductivity	SOP 34 (ČSN EN 27888)	Drinking, bathing, waste water
101	Determination of chemical oxygen demand using dichromate (COD <sub>Cr</sub> )	SOP 35 (ČSN ISO 15705)	Waste water
102-109	Reserved		
110	Determination of chloride by titration	SOP 8B (ČSN ISO 1841-2)	Extracts <sup>3</sup>

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111	Determination of dry matter by gravimetry, water content and humidity by calculation from measured values	SOP 24 (ČSN EN 14346:2007, ČSN EN 12880, ČSN EN ISO 18134-3, ČSN EN ISO 18134-2, ČSN 44 1377, ČSN ISO 687)	Sludge, waste, soil, sand, aggregate, timber, timber chips, saw dust, biomass <sup>4</sup>
112	Determination of gross calorific value by calorimetry	SOP 42 (ČSN ISO 1928, ČSN EN ISO 18125)	Coal, coke, timber, timber chips, saw dust, biomass <sup>4</sup>
113	Determination of copper, cadmium, lead, zinc, nickel and chromium by flame AAS method	SOP 43 (ČSN EN 16179, ČSN ISO 8288, Uniform working procedures, Testing of Fertilizers – ÚKZÚZ Brno 2012, Procedure No. 20060.1, 20101.1, 20100.1)	Sludge, waste, soil, sand, aggregates, biomass <sup>4</sup>
114	Determination of net calorific value by calculation	SOP 44 (Regulation No. 145/2016 Coll., ČSN ISO 1928) ČSN EN ISO 18125)	Coal, coke, timber, timber chips, saw dust, biomass <sup>4</sup>

<sup>1</sup> asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises

<sup>2</sup> if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

<sup>3</sup> aqueous extracts prepared according to valid legislation (Regulation 294/2005 Coll. and 61/2010 Coll.)

<sup>4</sup> vegetable material for further technological processing

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**Sampling:**

Ordinal number	Sampling procedure name	Sampling procedure identification <sup>1</sup>	Sampled object
1	Drinking and hot water sampling	SOP V.17 (Regulation No. 252/2004 Coll. ČSN EN ISO 5667-1 ČSN EN ISO 5667-3 ČSN EN ISO 19458 ČSN ISO 5667-5 ČSN EN ISO 5667-14)	Drinking, hot water
2	Manual sampling of waste water; sampling by an automatic sampler	SOP V.18 (ČSN EN ISO 5667-1 ČSN EN ISO 5667-3 ČSN ISO 5667-10 chap.4.2.1 ČSN EN ISO 5667-14)	Waste water
3	Bathing water sampling	SOP V.19 (Regulation No. 238/2011 Coll. ČSN EN ISO 5667-1 ČSN EN ISO 5667-3 ČSN EN ISO 19458 ČSN EN ISO 5667-14)	Bathing water (pools)
4	Sampling of areas and object surfaces for the determination of microbial contamination	SOP V.20 (ČSN EN ISO 18593)	Areas and objects in contact with food
5	Sampling of bottom sediments	SOP V.21 ČSN ISO 5667-12, ČSN EN ISO 5667-15, MP MŽP ČR Sampling in Rehabilitation Geology	Bottom sediments
6	Sampling of sludge from sewage and water treatment plants	SOP V.22 (ČSN EN ISO 5667-15, MP MŽP ČR Sampling in Rehabilitation Geology)	Sludge

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Ordinal number	Sampling procedure name	Sampling procedure identification <sup>1</sup>	Sampled object
7	Sampling of solid materials and biomass	SOP V.23 (ČSN EN ISO 5667-13, ČSN EN ISO 5667-15, MP MŽP ČR Sampling in Rehabilitation Geology)	Soil, sand, aggregates, biomass <sup>2</sup>

<sup>1</sup> If the document identifying the sampling procedure is dated, only these specific procedures are used.  
If the document identifying the sampling procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>2</sup> plant material for further technological processing

Used abbreviations:

AHEM           Acta hygienica, epidemiologica et microbiologica (Name of publications of SZÚ Praha)

SOP            Standard Operating Procedure

SVS            State Veterinary Administration

ÚKZÚZ        Central Institute for Supervising and Testing in Agriculture